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10/812,128

03/29/2004

Thomas T. Hardt

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

WRIGHT, INGRID D

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,128

Applicant(s)

HARDT ET AL.

Examiner

Ingrid Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/15/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-15 and 17-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-15 and 17-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to, because claim 1 recites "a first electronics sub-assembly that comprises a circuit board," and a second electronics sub-assembly that comprises a circuit board." Should the aforementioned circuit boards, be referred to as first and second circuit boards, as the last paragraph of claim 1 recites: "such that a memory module socket mounted to the first circuit board is adjacent to a controller chip mounted to the second circuit board and a memory module socket mounted to the second circuit board is adjacent to a controller chip mounted to the first circuit board?"

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,5-15, & 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roscoe et al. US 6498731 B1 in view of Wallace et al. US 6628537 B1, further in view of Baker et al. US 6819567 B2.

With respect to claim 1, Roscoe et al. teaches (Fig. 2,9) a memory package comprising a first cover portion (264), first electronics sub-assembly that comprises a circuit board (210) with at least one memory module socket (208) and at least one controller chip coupled to a

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processor (22) and mounted on a circuit board (210), a second cover portion (262) connected to said first cover portion (264), wherein said first and second cover portions (264,262) are moveable between a closed position, a second electronics sub-assembly that comprises a second circuit board (210) with at least one memory socket (208), at least one controller chip, coupled to the processor (22) and mounted on a circuit board (210)), wherein the electronics sub-assemblies are nested.

Roscoe et al. is silent as to a controller chip mounted on an individual board and a second electronics assembly mounted on a second cover portion.

Wallace et al. teaches controller chips (13) mounted on board (11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the controller chip, as taught by Wallace et al. in the invention of Roscoe et al., in order to provide an independently operable controller chip board assembly.

Baker et al. teaches an electronics assembly (105) mounted on a second cover portion (120).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an electronics assembly mounted on a second cover portion as taught by Baker et al., in the invention of Roscoe et al., in order to provide expansion components for a blade (see, Abstract of Baker et al.).

As to the placement of the boards, Roscoe et al. teaches a memory module socket (208) mounted on a first circuit board (210) and a plurality of usable slots, a memory module socket (208) mounted on a second circuit board (210), and a controller chip (coupled to a processor (22) which is mounted on a first and second circuit board (210,210)), except wherein the memory module socket on a first circuit board is placed adjacent a controller chip mounted on a second board, and a memory module socket on a second board is placed adjacent a controller chip mounted on a first circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the controller chip of Wallace et al. in a slot adjacent to a memory module socket of Roscoe et al., in order to provide an alternate equivalent board arrangement of a controlled circuit system.

With respect to claim 2, Roscoe et al. teaches (Fig. 2) first and second cover portions (264, 262) further comprises a base surface and wherein when said cover portions (264, 262) are in the closed position, the base surfaces of said cover portions (264, 262) face each other.

With respect to claim 3, Roscoe et al. teaches (Fig. 2) the circuit boards (210) of said first and second electronics sub-assemblies are positioned substantially parallel to and offset from each other. when said first and second cover portions are in the closed position.

With respect to claim 5, Roscoe et al. teaches (Fig. 9) each of said first and second cover portions (264,262) further comprises a base surface and said cover portions (264,262) have an

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open position wherein the base surfaces of said cover portions (264,262) do not face each other.

With respect to claim 6, Roscoe et al. teaches (Fig. 9) the circuit boards (210) of said first are positioned substantially parallel to and substantially co-planar with each other when said first and second cover portions (264,262) are in the open position.

With respect to claim 7, Roscoe et al. teaches (Fig. 9) a hinge (278) pivotally connecting said first cover portion (264) and said second cover portion (262).

With respect to claim 8, Roscoe et al. teaches (Fig. 9) a latch (282) operable to retain said cover portions (264,262) in the closed position.

With respect to claim 9, Roscoe et al. teaches (Fig. 9) an electrical connector (216) operable to couple said electronic sub-assemblies to a processor-based device.

With respect to claim 10, Roscoe et al. teaches (Fig. 9) an electronic sub-assembly further comprises an electrical connector (216) operable to couple one electronic sub-assembly to a processor-based device.

With respect to claim 11, Roscoe et al. teaches (Fig. 9) a handling aperture (288) in at least one of said cover portions (264).

With respect to claim 12, Roscoe et al. teaches (Fig. 2, 9) the circuit board (210) of said first electronics assembly identical to the circuit board (210) of said second electronics assembly.

With respect to claim 13, Roscoe et al. teaches (Fig. 9) a plurality of memory modules (206) received by the memory module sockets.

With respect to claim 14, Roscoe et al. teaches (Fig. 1) a processor (22), a chassis supporting said processor (22) and a memory package comprising, an electronics assembly comprising first and second circuit boards (210), wherein each circuit board (210) is coupled to at least one memory module (208), and a housing assembly supporting said electronics assembly, wherein said housing assembly has a first cover portion (264) supporting the first circuit board (210) and a second cover portion (262); wherein said memory package has a closed position and an open position, wherein in the closed position said housing engages said chassis (248) and said electronics assembly electrically couples with said processor (22), and a memory controller, coupled to a processor (22) and mounted on a first and second circuit board (210,210).

Roscoe et al. is silent as to a controller chip mounted on an individual board and a second cover portion supporting a second circuit board.

Wallace et al. teaches controller chips (13) mounted on a board (11).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the controller chips, as taught by Wallace et al. in the invention of Roscoe et al., in order to provide an independently operable controller chip board assembly.

Baker et al. teaches a second cover portion (120) supporting a second circuit board (105). (120).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the second cover portion and assembly/board arrangement as taught by Baker et al., in the invention of Roscoe et al., in order to provide expansion components for a blade (see, Abstract of Baker et al.).

As to the placement of the boards, Roscoe et al. teaches a memory module socket (208) mounted on a first circuit board (210) and a plurality of usable slots, a second memory module (208) socket mounted on a second circuit board (210), and a controller chip (22) (coupled to a processor on a first and second circuit board (210,210)), except wherein the memory module socket on a first circuit board is placed adjacent a controller chip mounted on a second board, and a memory module socket on a second board is placed adjacent a controller chip mounted on a first circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the controller chip of Wallace et al. in a slot adjacent to a memory module socket of Roscoe et al., in order to provide an alternate equivalent board arrangement of a controlled circuit or system.

With respect to claim 15, Roscoe et al. teaches (Fig. 2,9) the first and second circuit boards (210) are positioned substantially parallel to and offset from each other when said memory package is in the closed position.

With respect to claim 17, Roscoe et al. teaches memory package has an open position wherein said housing is disengaged from said chassis and said electronics assembly is decoupled from said processor.

With respect to claim 18, Roscoe et al. teaches the first and second circuit boards (210) are positioned substantially parallel to and substantially co-planar with each other when said memory package is in the closed position.

With respect to claim 19, Roscoe et al. teaches the electronics assembly further comprises at least one electrical connector (214) coupled to the first and second circuit boards, wherein the at least one electrical connector (214) couples the electronics assembly to said processor.

With respect to claim 20, Roscoe et al. teaches (Fig. 9) the housing assembly further comprises a hinge (278) pivotally connecting the first cover portion and the second cover portion.

With respect to claim 21, Roscoe et al. teaches (Fig. 9) the housing assembly further comprises a latch (282) operable to retain said cover portions in the closed position.

With respect to claim 22, Roscoe et al. teaches (Fig. 9) a memory package comprising a means for housing (260) a first and second electronics sub-assemblies (274), daughterboards with memory modules (272), wherein each sub-assembly (274) has at least one memory module (272); means for moving (278,280) at least a portion of said means for housing (260) between an open position allowing access to the memory modules (272) and a closed position where the two electronics sub-assemblies (274) are nested together.

Although, Roscoe et al. teaches a processor (22) coupled with a control circuitry, however it is unclear if a controller chip is on the daughter boards or not.

Wallace et al. is relied upon to show evidence of multiple memory modules with independent control circuitry, via controller chips (13) mounted on a circuit board (11) (see, fig. 9 of Wallace et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide memory modules of Roscoe et al., with control circuitry such as a controller chip to allow the boards to function independently in view of the teachings of Wallace et al. and Baker et al.

As to the placement of the boards, Roscoe et al. teaches a memory module socket (272) mounted on a first electronic sub-assembly (274), a plurality of usable slots, a memory module socket (272) mounted on a second electronic sub-assembly (274), first and second sub-assembly (274)), except wherein the memory module socket mounted on a first electronic sub-assembly is placed adjacent a controller chip mounted on a second electronic sub-assembly,

and a memory module socket mounted on a second electronic sub-assembly is placed adjacent a controller chip mounted on a first electronic sub-assembly.

It would have been obvious to place the controller chip mounted on the electronic sub-assembly of Wallace et al. adjacent the memory module socket mounted on the electronic sub-assembly of Roscoe et al. and to place a second memory module socket mounted on a second electronic sub-assembly of Roscoe et al. adjacent the controller chip mounted on a first electronic sub-assembly of Wallace et al., in order to provide an alternate equivalent arrangement of a controlled circuit or system.

With respect to claim 23, Roscoe et al. teaches (Fig. 9) means for coupling (278,280) the first and second electronics sub-assemblies (274) to a processor-based device when said means for housing (260) is in the closed position.

With respect to claim 24, Roscoe et al. teaches (Fig. 9) means for retaining (278,280) said means for housing (260) in the closed position.

Response to Arguments

3. Applicant's arguments filed 12/12/05 have been fully considered but are moot in view of the new ground (s) of rejection.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be

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some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA) 1969.

The Examiner clarifies that the claims were viewed as a whole and each limitation of the claims were considered in determining the patentability of the Applicant's claims. The primary reference, Roscoe et al., disclosed a memory package comprising a memory controller coupled to a processor (22) as shown in fig. 2, & fig. 9.

The additional reference, Wallace, in col. 4, lines 5-13, disclosed a circuit board (11), which contained a plurality of circuit components that formed a memory controller (13). Clearly, each of these components suggested a memory controlling device and are able to be utilized (together) by one having ordinary skill in the art.

In regards to the amended claims, Roscoe et al. is silent as to a second electronics assembly mounted in a second cover. New prior art, Baker et al. is relied upon to teach a second cover portion (120) with an electronics assembly (105) mounted thereupon.

Thus, limitations of the instant application are met by the limitations as referenced by Roscoe et al., Wallace et al. and Baker et al.

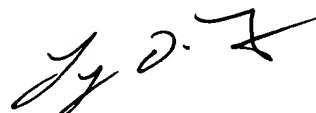
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571)272-8392. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571)272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IDW



LYNN D. FEILD
PRIMARY EXAMINER